UNITED STATES MARINE CORPS
MARINE CORPS ENGINEER SCHOOL
CAMP LEJEUNE, NORTH CAROLINA 28542-0069

1500
MAGTF
28 Oct 04

From: Gunnery Sergeant Kenneth R. Gibson
To: Commanding Officer, Marine Corps Engineer School
Via: Major Dubbs, MAGTF Integration Officer

Subj: **HYDREMA 910 MINE CLEARING VEHICLE DEMONSTRATION**

1. Background: The Marine Corps has no area clearing capabilities within its arsenal. In May 2004, the Marine Corps Engineer School (MCES) had a Joint Area Clearance Advanced Concept Technology Demonstration (JAC-ACTD). MCES tested the Mine Cultivator, Mine Sifter, and the Viking Flail for area clearance. The Mine Cultivator and Mine Sifter did show some potential for the beachhead or in very sandy soil. The robotics in all three pieces of gear needed major improvement. The Viking Flail showed some potential for area clearance but the size of the equipment is massive and had numerous logistical problems. The Marine Corps War Fighting Lab and Marshall Dutton, a Robotics Support Contractor from the Air Force Research Lab, set up the demonstration.

2. The Hydrema 910 Mine Clearing Vehicle demonstration was hosted by the Air Force Research Lab on 18 October 2004 at Tyndall Air Force Base and the personnel that attended were:

NAME:	AFFILIATION:	EMAIL:
Marshall "Doc" Dutton	**AFRL**	Marshall.Dutton@tyndall.af.mil
Michele Kane	**MCWL**	Michele.kane@usmc.mil
Alan Canfield	**ONR**	Charles.canfield@navy.mil

3. Highlights:

a. 17 October 2004 was a travel day. This allowed time to locate the area for the demonstration.

b. 18 October 2004 was the day of the demonstration. The cost for the Hydrema 910 is 1.2 million dollars without the robotics and 1.5 million dollars with the robotics. The Army is currently leasing two Hydrema 910's and the contract comes with a limited maintenance package. The speed of the Hydrema 910 is

35km or 21.35 MPH. The logistical transportation needed for the Hydrema 910 will require 870 trailers or it can be air lifted by a C-130. The Army hasn't had any maintenance problems as of now and they are currently operating 8 to 10 hours a day in Afghanistan. For the training of Marines to operate this piece of gear, after operating the Hydrema for a few hours, I would say it would require two days of manual operating and two days on the robotics for a total of four days. The proficiency level will come in time after weeks of constantly operating the Hydrema. Three weeks ago a Hydrema 910 hit an anti-tank mine. Damage occurred on the front right side of the Hydrema. The soldier operating the Hydrema was medically evacuated out and survived. The Hydrema was up and running after eight hours of repairs. For more information on the Hydrema 910 Mine Clearing Vehicle go to www.globalsecurity.org/military/systems/ground/hydrema.htm.

4. Point of contact for further information is Gunnery Sergeant Kenneth R. Gibson at DSN 750-7236 or commercial (910) 450-7236 Kenneth.Gibson@usmc.mil

K. R. Gibson
GySgt, USMC
MAGTF Action Officer